Research Program Update
(FY 2005)

VISN 4

Serving those who served

This update summarizes VISN 4's research activities. Research is currently pursued at five of our Network's 10 medical centers. Our newly established, multi-site Institutional Review Board will enable other medical centers to pursue research projects in the future. Projects at individual medical centers are discussed below, followed by an overview of efforts taking place within the specialized research centers, which are based at our Philadelphia and Pittsburgh facilities. You will also find graphs depicting research funding at Philadelphia and Pittsburgh, which represent our two largest research programs. Although we have not included the names of specific researchers in this update, the credit for VISN 4's research efforts belongs primarily to these individuals.

VA Medical Centers

Clarksburg, WV

The research program at Clarksburg has grown over the last several years from one study of prostate cancer to five active projects with total funding of approximately $1,300,000. Of special interest is the participation of Clarksburg in a cooperative study on bioterrorism (in conjunction with the Brooklyn VA Medical Center).

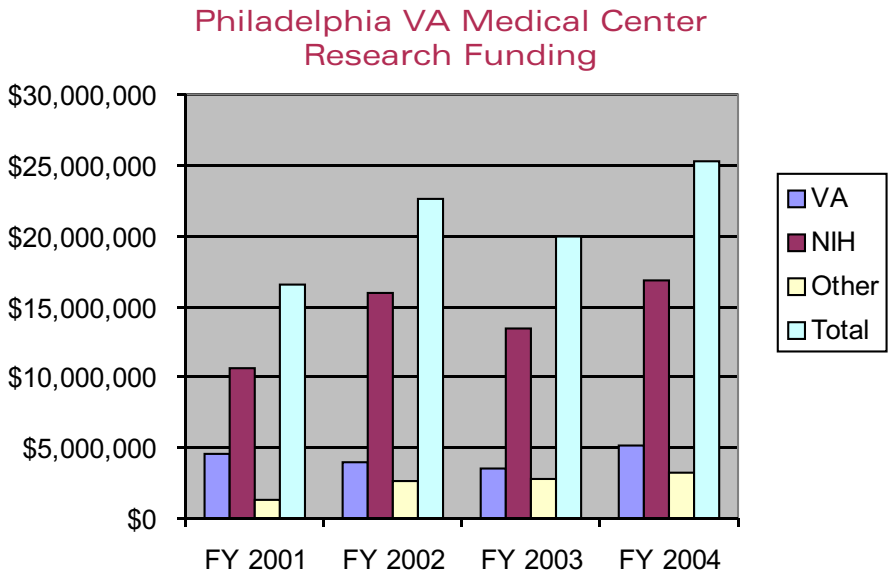
Coatesville, PA

Between Fiscal Year (FY) 2001 and FY 2005, the number of human research projects annually has ranged between 24 and 37 at this medical center. Annual peer-reviewed research funding (VA and National Institutes of Health) during the same period has ranged between approximately $600,000 and $925,000. Current projects include a study aimed at exploring the importance of structural abnormalities of the brain in triggering epileptic seizures in elderly veterans with Alzheimer's disease, and a study of the possible genetic basis of bipolar disorder and schizophrenia.

Lebanon, PA

Currently, there are six active research projects at this medical center. These include a VA Merit Review (total funding of approximately $850,000) aimed at understanding the basic biology of a type of leukemia (large granular lymphocyte leukemia) that is associated with rheumatoid arthritis. This project may help to advance the understanding, and eventually the treatment, of rheumatoid arthritis.

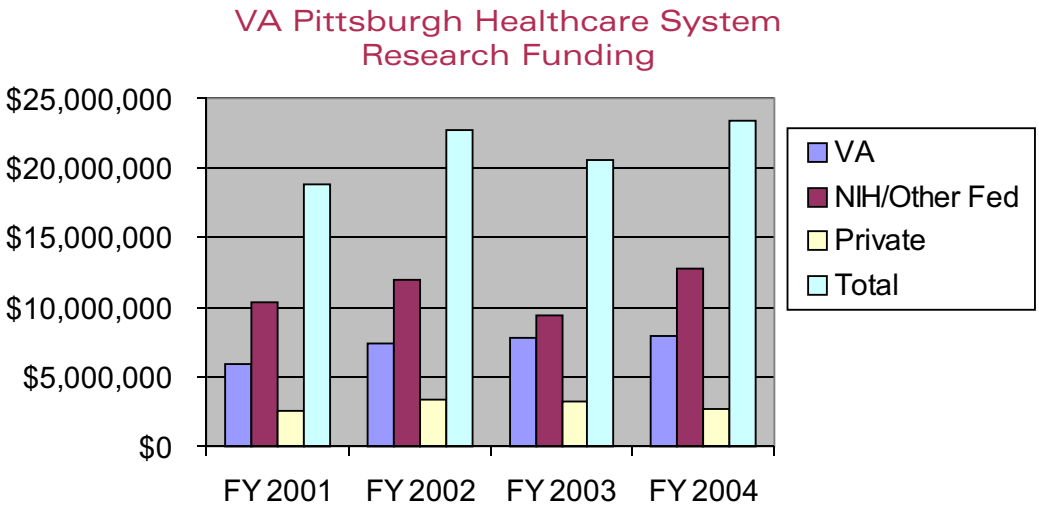
Philadelphia, PA



All major clinical disciplines are represented among the 264 current research projects at the Philadelphia VA Medical Center (PVAMC). Hepatitis C and cardiovascular disease are two areas of research among many that are being pursued. During the last several years, more than 5,000 veterans with hepatitis C virus (HCV) infection have been identified at the PVAMC. Work at this medical center is aimed at understanding human immune responses against HCV, with the goal of learning how these responses might protect against liver damage in hepatitis C. With respect to cardiovascular disease, researchers at the PVAMC are studying the possibility that anti-diabetic drugs may be able to reduce cardiovascular risk in patients with "metabolic syndrome," a condition in which there are abnormal levels of lipids (fats) in the blood, high blood pressure, raised blood glucose, and obesity. If untreated, this syndrome can make a person susceptible to heart disease.

Pittsburgh, PA

Between FY 2001 and FY 2005, the number of active research projects has ranged between 246 and 321 per year at the VA Pittsburgh Healthcare System (VAPHS). In addition to activities taking place at the specialized research centers (see next page), individual research projects at Pittsburgh include basic biomedical studies of brain injury, Parkinson's disease, osteoarthritis, substance abuse, mental illness, head injury, osteoporosis, prostate cancer, and diabetes. Investigators at VAPHS are participating in multi-site clinical trials in diabetes, prostate cancer, coronary artery bypass surgery, myocardial infarction (heart attack), deafness, and epilepsy. VAPHS is also the coordinating center for a multi-site trial sponsored by VA and the National Institutes of Health to study acute renal failure. National Institutes of Health to study acute renal failure.



VISN 4 Specialized Research Centers

Center for Health Equity Research and Promotion (CHERP)

Two major goals of CHERP, a center that is represented in Philadelphia and Pittsburgh, are to identify and correct disparities in the delivery of health care to different groups of veterans (e.g., individuals of different races). Among the portfolio of studies being pursued through CHERP are efforts aimed at achieving equity in the treatment of community-acquired pneumonia, diabetes, bipolar disorder, obstructive sleep apnea, and pain.

Geriatric Research, Education, and Clinical Center (GRECC)

Research efforts in this Pittsburgh-based center are aimed at understanding the basic biology of stroke and improving the treatment of this condition. The basic science element is focused on identifying genes that promote, or protect against, death of neurons (nerve cells) when blood supply to the brain is compromised, as in a stroke. A related project is aimed at treatment with a protective protein(s) that can prevent death of nerve cells and reduce the area of brain damage resulting from an experimental stroke. This work may, in due course, lead to a novel treatment(s) for human stroke. Clinical projects in the GRECC are focused on rehabilitation of stroke survivors who have language impairment (aphasia), and management of post-stroke depression.

Human Engineering Research Laboratory (HERL)

This Pittsburgh-based center is one of the world's leading sites for developing wheelchairs and other assistive devices for disabled individuals. HERL engineers have (1) developed wheelchairs that can climb stairs independently, and (2) contributed to the development of prosthetic devices for amputees. The work of the center is likely to become increasingly important with the return of combat-injured veterans from Afghanistan and Iraq.

Mental Illness Research, Education, and Clinical Center (MIRECC)

A focus of this Philadelphia/Pittsburgh-based center is to understand, and improve the treatment of, psychiatric illness that accompanies “medical” illness (such as Parkinson's disease). In addition, specific areas of study include efforts aimed at prevention of suicide, use of positron emission tomography to identify an area(s) of the human brain that is activated in substance abuse, and efforts to identify the genetic underpinnings of mental illness. One major MIRECC finding is the identification of a gene that influences the degree to which individuals with alcohol dependence respond to treatment with the drug naltrexone.

Parkinson's Disease Research, Education, and Clinical Center (PADRECC)

The Philadelphia-based PADRECC, one of six VA Parkinson's disease (PD) centers nationwide, is engaged in several basic science and clinical studies. As a result of basic research in the center (and elsewhere), it appears that at least some cases of PD are the result of death of cells in the brain brought about by the abnormal accumulation of a protein (alpha-synuclein) in the cells. From the clinical standpoint, the PADRECC is looking at potential treatment options for PD. One such approach, deep brain stimulation, involves surgical implantation of electrodes into the brains of patients with PD. Clinical improvement has been seen in patients treated using deep brain stimulation under the auspices of the PADRECC.

Eastern Regional Sleep Center

A major goal of this Philadelphia-based center is to improve the diagnosis and treatment of obstructive sleep apnea in patients treated at facilities in the Eastern market of VISN 4. Obstructive sleep apnea is a condition in which individuals stop breathing momentarily and repeatedly while asleep, due to closure of the upper airway. This situation causes disruption of sleep during the night which, in turn, leads to sleepiness during the day. Research efforts in the center are focused on (1) treatment of nightmares, (2) differences in patients' perceptions about sleep apnea and its treatment, (3) usefulness of portable home monitors in diagnosing and evaluating the treatment of sleep apnea, and (4) understanding the relationship between sleep apnea and high blood pressure.

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